Sahan Senevirathna

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https://sahan-daksh.me/

PROFESSIONAL SUMMARY

A highly motivated Computer Science undergraduate passionate about Web Development, AI/ML, and Cloud Computing. Currently in my second year at the University of Westminster (IIT Sri Lanka), I have hands-on experience in full-stack development, cloud infrastructure, and AI applications. Proficient in React, Spring Boot, and Node.js, I specialize in building scalable solutions. As an active IEEE RAS member, I have taken on leadership and technical roles in organizing impactful events. Constantly exploring emerging technologies, I strive to develop high-performance digital solutions that drive real impact.

EDUCATION

BSc Computer Science (Undergraduate)   **2023 Sep - Present**
University of Westminster – IIT Sri Lanka

- Achieved 75%+ average in first-year modules
- Currently excelling in second-year modules, including: OOP, Database Systems, Software Development Group Project, Data Mining and Machine Learning, Data Structures and Algorithms, Client Server Architecture

PROJECTS

UniGuide Project (Python, FastAPI, Docker, AWS, MongoDB, Nginx, OpenAI)
- Backend Developer, DevOps Engineer, Database Architect, and Recommendation Model Creator
- Developed and deployed the backend infrastructure of UniGuide, an AI-powered university guidance platform.
- Key contributions:
  - Backend Development: Engineered a FastAPI backend integrating OpenAI's GPT models with RAG for accurate responses.
  - DevOps & Deployment: Managed CI/CD pipelines with GitHub Actions, deployed on AWS EC2 using Docker and Nginx.
  - Database Architecture: Designed MongoDB schemas for efficient data storage and retrieval.
  - Recommendation Model: Created a RAG system combining GPT outputs with university data for enhanced accuracy.
- Website Link : app.uniguide.lk

Flower Image Classifier (Python, PyTorch)
- Developed an image classification application as part of the Udacity AI Programming with Python Nanodegree program
- Implemented:
  - Image data loading and preprocessing
  - Data augmentation techniques
- Trained a convolutional neural network model using PyTorch to classify different flower species
- Utilized Python and PyTorch for model development, training, and deployment
- Optimized model performance through techniques like transfer learning and fine-tuning
- Link : https://github.com/Sahan-Daksh/Image_Classifier_AIPND

Real-Time Event Ticketing System (Java, Spring Boot, Next.js, RESTful APIs, Multi-Threading)
- Developed a real-time ticketing platform implementing the producer-consumer pattern to manage concurrent ticket release and purchases.
- Key contributions included:
  - **Backend Development:** Built RESTful APIs using Spring Boot for managing ticket operations and handling multi-threaded synchronization.
  - **Frontend Development:** Designed an interactive UI using Next.js to provide a responsive and user-friendly experience.
  - **Concurrency Management:** Implemented producer-consumer patterns using Java multi-threading to handle real-time ticket availability updates.
- Link : https://github.com/Sahan-Daksh/Real-Time-Ticketing-System

LLM Fine-tuning: Enhancing Qwen 2.5 3B for AI Research QA
- Led a team in fine-tuning the Qwen 2.5 3B model for specialized AI research question-answering as part of IntelliHack 5.0, a premier Machine Learning Hackathon.
- Key achievements:
  - Generated a synthetic dataset from technical AI literature using RAGAS/DeepEval
  - Implemented advanced fine-tuning techniques on Qwen 2.5 3B using unsloth/axolotl
  - Created a 4-bit quantized version in .gguf format for efficient deployment
  - Developed a custom inference script for seamless integration
  - Open-sourced the fine-tuning scripts and made the model publicly available
  - Demonstrated expertise in LLM fine-tuning, data synthesis, and model optimization for specialized domains in AI research. Focused on efficient techniques suitable for the 3B parameter model, balancing complexity with practical implementation.
- Hugging Face Link : https://huggingface.co/sahan-daksh/44Below_qwen2.5_3b_research_q4_0

Micromaze 2024 - Website (ReactJS, TailwindCSS, JavaScript, HTML/CSS)
- Developed a website for the MicroMaze robotics competition which is organized by IEEE Robotics and Automation Society of IIT using ReactJS.
- Implemented user interface components and interactive features using ReactJS and Chakra UI.
- Website Link : https://micromaze.live
- Repo Link : https://github.com/Sahan-Daksh/micromaze-web

CERTIFICATIONS

AI Programming with Python Nanodegree
Udacity - AWS

AWS Machine Learning Fundamentals - Nanodegree
Udacity - AWS

Python for Data Science, AI and Development
IBM

Cloud Infrastructure Certified Foundations Associate
Oracle

CCNA : Introduction to Networks
Cisco

ACHIEVEMENTS

AWS Scholarship Recipient – Earned through AWS DeepRacer Student League, awarded for outstanding performance.

Global Top 500 Finalist – AI Programming with Python Nanodegree (AWS & Udacity).

Finalist – HackVenture Ideathon – Organized by AIESEC, University of Kelaniya.

Semi-Finalist – Idealize Ideathon – Organized by AIESEC, University of Moratuwa.

KEY COMPETENCIES

- Python
- Java
- JavaScript
- HTML / CSS3
- MySQL
- FastAPI
- Springboot
- Node.js
- Express.js
- Oracle
- AWS
- Docker
- CI/CD Pipelines
- PyTorch
- TensorFlow
- Teamwork
- Time Management
- Critical Thinking
- Adaptability
- Work Ethic

EXTRACURRICULAR ACTIVITIES

Program Lead
IEEE RAS Society - IIT Student Branch

Event Chairperson - Tracktion
IEEE RAS Society - IIT Student Branch

Program and Logistics Vice Chair - RobotNexus 2
IEEE RAS Society - IIT Student Branch

Volunteer - Program and Logistics Team
IEEE Innovation Nation Sri Lanka'24 - Colombo North

Volunteer - Program and Logistics Team
IEEE Student Branch of IIT

Senior Prefect
Ruwanwella Rajasinghe Central College

REFERENCES

Suresh Peiris
Co Founder - Inforwaves
Visiting Lecturer - Informatics Institute of Technology
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